

Appl. No.: 10/613,800  
Amdt. Dated: February 7, 2006  
Off. Act. Dated: September 7, 2005

## **AMENDMENTS TO THE CLAIMS:**

A detailed listing of all claims that are, or were, in the application follows:

1. (currently amended): An abrasion resistant material for use in protective clothing, comprising:  
a plurality of beads having rounded exteriors; and  
a matrix of cords interconnecting said plurality of beads in a two dimensional pattern toward providing high abrasion resistance;  
wherein said beads comprise a low sliding friction, abrasion resistant material;  
wherein said said cords comprise a flexible, abrasion resistant material; and  
wherein each of said beads is attached in said matrix of cords on at least four attachment points which limit bead rotation while taking up slack in said matrix of cords thereby retaining and suspending above an abrasive surface, the fleshy portions of the skin of a person wearing protective clothing into which said abrasion resistant material is incorporated.
2. (currently amended): An abrasion resistant material as recited in claim 1;  
[[,]] wherein said interconnection of said beads with said cords occurs substantially through the center of each of said beads; and  
wherein the attachment of each of said beads to a cord in the cord matrix is configured to prevent said beads from moving along one or more of said cords.
3. (original): An abrasion resistant material as recited in claim 1, wherein the exterior of the bead comprises UHMW polyethylene.
4. (currently amended): A garment material for use within abrasion resistant clothing, comprising:  
a plurality of beads of an abrasion resistant material having rounded exteriors;

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and

a matrix of abrasion resistant cords interconnecting said beads and configured for retaining said beads in a fixed two-dimensional pattern;

wherein each of said beads is attached in said matrix of cords on at least four attachment points which limit bead rotation while taking up slack in said matrix of cords in response to abrasive contact with a surface.

5. (original): A garment material as recited in claim 4, wherein said matrix of cords comprise material of sufficiently high tensile strength to prevent said beads from disconnecting from said matrix of cords in response to sliding contact with a roadway surface.

6. (currently amended): A garment material as recited in claim 4;  
[[,]] wherein said matrix of cords are attached to said plurality of beads through a material portion of each of said beads; and

wherein the attachment of each of said beads to a cord in the cord matrix is configured to prevent said beads from moving along one or more of said cords.

7. (original): A garment material as recited in claim 4, wherein at least the exterior portions of said beads comprise an abrasion resistant material having a coefficient of friction sufficiently low as to reduce inducing rotational torque forces on a wearer of said garment in response to sliding contact with a roadway surface that can lead to additional tumbling injuries.

8. (original): A garment material as recited in claim 4, further comprising compliant material inserts retained where said cord enters the material of said bead.

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9. (previously presented): An abrasion resistant material as recited in claim 1, wherein at least a portion of the cords within said matrix of cords pass through said beads.

10. (currently amended): An abrasion resistant material as recited in claim 1; [[,]] wherein cords within said matrix of cords are configured with sufficient elasticity to conform to the wearer whereby the portion of the garment which includes said abrasion resistant material is securely retained.

11. (previously presented): An abrasion resistant material as recited in claim 1, wherein cords within said matrix of cords are configured with a tensile strength in the range of from approximately 25 - 250 pounds.

12. (currently amended): An abrasion resistant material as recited in claim 1, wherein said plurality of beads comprises beads of different sizes in response to the area of application about the exterior of the body of the wearer.

13. (previously presented): An abrasion resistant material as recited in claim 1, wherein beads of said plurality of beads comprising injection molded plastic are attached to said matrix of cords in a molding process.

14. (previously presented): An abrasion resistant material as recited in claim 1, wherein said plurality of beads comprises:

a first material on the exterior portions of said beads; and  
a second material configured for receiving a cord within said matrix of cords.

15. (previously presented): An abrasion resistant material as recited in claim 14, wherein said second material comprises a sufficiently compliant material to distribute

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the forces between said cord and the first material of said bead.

16. (previously presented): An abrasion resistant material as recited in claim 1, wherein the ratio of bead diameter to spacing between adjacent beads is in the range of approximately 1:1.5 to 1:8.

17. (previously presented): An abrasion resistant material as recited in claim 1, wherein the ratio of bead diameter to spacing between adjacent beads is in the range of approximately 1:2 to 1:4.

18. (previously presented): An abrasion resistant material as recited in claim 1, wherein said material is adapted for inclusion within abrasion protection garments.

19. (previously presented): An abrasion resistant material as recited in claim 1, wherein said interconnecting matrix is attached to a cloth layer.

20. (currently amended): An abrasion resistant material adapted for inclusion within abrasion protection garments, comprising:

a plurality of beads, of one or more sizes, having rounded exteriors and formed from one or more abrasion resistant materials in a solid, hollow, or filled configuration;

a matrix interconnecting said plurality of beads in a two dimensional pattern;

wherein the attachment of each of said beads to a cord in the cord matrix is configured to prevent said beads from moving along one or more of said cords; and

wherein the ratio of bead diameter to spacing between adjacent beads is in the range of approximately 1:1.5 to 1:8.